

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims, including those in the First Preliminary Amendment, in the application:

Listing of Claims:

Claim 1 (currently amended): A sputtering target or thin film formed therefrom comprising a sputtering target or thin film made of a high purity hafnium material, and a target and thin film formed from said material, wherein the a zirconium content of the target or thin film is 1 to 1000wtppm, and the a purity thereof of the target or thin film is 4N to 6N excluding gas components such as of carbon, oxygen and nitrogen.

Claim 2 (currently amended): ~~The high purity hafnium material, and the~~ A sputtering target and or thin film formed from said material according to claim 1, wherein oxygen is 500wtppm or less, nitrogen and carbon are respectively 100wtppm or less, and iron, chromium and nickel are respectively 10wtppm or less, ~~and the purity thereof is 4N to 6N excluding gas components such as carbon, oxygen and nitrogen.~~

Claim 3 (currently amended): A method of manufacturing method of high purity hafnium ~~including comprising~~ the steps of:

making aqueous solution of chloride of hafnium,
thereafter, removing zirconium therefrom via solvent extraction,
performing neutralization treatment to obtain hafnium oxide,
further performing chlorination to obtain hafnium chloride, and
reducing ~~this~~ said hafnium chloride to obtain a hafnium sponge.

Claim 4 (currently amended): ~~The manufacturing~~ A method of high purity hafnium according to claim 3, wherein ~~the~~ moisture content in the hafnium chloride before reduction and in the atmosphere is 0.1wt% or less, and ~~the~~ nitrogen content therein is 0.1wt% or less.

Claims 5-9 (canceled).

Claim 10 (new): A method according to claim 4, wherein a reduction atmosphere used in said reducing step is an argon atmosphere, and wherein said reducing step is performed under a positive pressure of 1 atmospheric pressure or greater.

Claim 11 (new): A method according to claim 10, further comprising the step of subjecting said hafnium sponge to electron beam melting to obtain a hafnium ingot.

Claim 12 (new): A method according to claim 11, wherein during said reducing step said hafnium chloride is reduced with a metal having a stronger chloridization power than hafnium.

Claim 13 (new): A method according to claim 12, wherein said hafnium sponge formed as a result of said reducing step has a zirconium content of 1 to 1000wtppm and a purity of 4N to 6N excluding gas components of carbon, oxygen and nitrogen.

Claim 14 (new): A method according to claim 13, wherein said hafnium sponge formed as a result of said reducing step has 100wtppm or less of oxygen, 30wtppm or less of nitrogen and carbon, respectively, and 5wtppm or less of iron, chromium, and nickel, respectively.

Claim 15 (new): A method according to claim 3, wherein a reduction atmosphere used in said reducing step is an argon atmosphere, and wherein said reducing step is performed under a positive pressure of 1 atmospheric pressure or greater.

Claim 16 (new): A method according to claim 15, further comprising the step of subjecting said hafnium sponge to electron beam melting to obtain a hafnium ingot.

Claim 17 (new): A method according to claim 16, wherein during said reducing step said hafnium chloride is reduced with a metal having a stronger chloridization power than hafnium.

Claim 18 (new): A method according to claim 17, wherein said hafnium sponge formed as a result of said reducing step has a zirconium content of 1 to 1000wtppm and a purity of 4N to 6N excluding gas components of carbon, oxygen and nitrogen.

Claim 19 (new): A method according to claim 18, wherein said hafnium sponge formed as a result of said reducing step has 100wtppm or less of oxygen, 30wtppm or less of nitrogen and carbon, respectively, and 5wtppm or less of iron, chromium, and nickel, respectively.

Claim 20 (new): A method according to claim 3, further comprising the step of subjecting said hafnium sponge to electron beam melting to obtain a hafnium ingot.

Claim 21 (new): A method according to claim 20, wherein during said reducing step said hafnium chloride is reduced with a metal having a stronger chloridization power than hafnium.

Claim 22 (new): A method according to claim 21, wherein said hafnium sponge formed as a result of said reducing step has a zirconium content of 1 to 1000wtppm and a purity of 4N to 6N excluding gas components of carbon, oxygen and nitrogen.

Claim 23 (new): A method according to claim 3, wherein during said reducing step said hafnium chloride is reduced with a metal having a stronger chloridization power than hafnium.

Claim 24 (new): A method according to claim 3, wherein said hafnium sponge formed as a result of said reducing step has a zirconium content of 1 to 1000wtppm and a purity of 4N to 6N excluding gas components of carbon, oxygen and nitrogen.

Claim 25 (new): A method according to claim 24, wherein said hafnium sponge formed as a result of said reducing step has 100wtppm or less of oxygen, 30wtppm or less of nitrogen and carbon, respectively, and 5wtppm or less of iron, chromium, and nickel, respectively.